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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/821,119	PEVEAR ET AL.	
	Examiner	Art Unit	
	ERICK REKSTAD	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/3/2006 and 9/21/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is a Non-Final Office Action for Application no. 10/821,119 filed on April 8, 2004. Claims 1-61 are presented for examination. Application 10/821,119 is a Continuation in Part of Abandoned Application 10/228863 and therefore not all claims benefit from the earlier filing date.

Claim Objections

Claims 10 and 30 are objected to because of the following informalities: Claim 10 states "in a calibration". It is assumed by the Examiner that the calibration is suppose to be a calibration stage or unit.

Claim 30 states "an a image storage" the claim should state "an image storage". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 32, 33, and 44-46 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 7,023,913 to Monroe.

[claim 32]

Monroe teaches the use of a security and surveillance system containing a plurality of cameras contained in a single unit (Col 2 Lines 35-49, Col 9 Lines 13-19, Fig. 1). The cameras are further mounted onto a single mounting block (Col 9 Lines 61-64, Figs. 4A-4B). Note the figures depict the cameras are mounted to the mount (58) in parallel. Figure 12a shows the cameras for the module have the same field of view (Col 11 Line 39-43). The cameras include a lens (10) and a photodetector (82) as required by the claim (Col 8 Lines 4-8, Col 10 Lines 51-53, Fig. 9).

[claims 33 and 44]

Monroe further teaches the use of multiple camera modules (60a and 60b in Fig. 23), each oriented in a different direction, and each having at least four cameras mounted in a square pattern (Col 11 Lines 37-48 and Col 14 Lines 10-16, Figs. 12b and 23).

[claims 45 and 46]

Figures 12a and 12b show the modules may have the same or different fields of view.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 3, 8, 10-16 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 7,019,777 to Sun in view of US Patent 5,894,323 to Kain al. and further in view of 7,023,913 to Monroe.

[claim 1]

As shown in Figure 2, Sun teaches an aerial imaging system comprising a controller (22) located with an aircraft and a camera assembly (11) (abstract, Col 5 Lines 14-15 and 25-30, Fig. 1). Sun further teaches the use of an image storage medium as part of the controller (166, Figure 10) (Col 11 Lines 15-24). The controller performs the operation of collecting images and storing them to the image storage medium (Col 5 Lines 46-50, Col 11 Lines 15-20 and Lines 46-49). The camera assembly comprises at least one multiple camera module with a plurality of parallel camera lenses and focused on the same field of view (Col 5 Lines 27-31, Col 6 Lines 58-60, and Col 11 Lines 60-62). Sun further teaches the CCD cameras contain photodetectors (Col 7 Lines 20-25). Sun teaches each camera is associated with a lens and captures light through the lens (Col 5 Lines 27-44). Sun is silent on the image storage medium located within an aircraft and a mounting block containing a plurality of parallel lens cavities.

As shown in Figure 3, Kain teaches the use of an electronics unit (84) containing an image storage medium (32) located within an aircraft for use with a remote data collection system (Abstract, Col 3 Lines 67-Col 4 Line 4, Col 4 Lines 34-36, Col 5 Line 11-16 and Col 5 Lines 20-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to located the image storage medium of Sun within an

aircraft as Kain teaches such a setup for remote data collection systems. Kain is silent on the mounting block for the lenses.

Monroe teaches the use of a security and surveillance system containing a plurality of cameras contained in a single unit (Col 2 Lines 35-49, Col 9 Lines 13-19, Fig. 1). The cameras are further mounted onto a single block (Col 9 Lines 61-64, Figs. 4A-4B). Note the figures depict the cameras are mounted to the mount (58) in parallel. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the mount of Monroe with the system of Sun and Kain in order to provide a multiple camera surveillance system as taught by Monroe (Col 2 Lines 35-49).
[claim 2]

As shown above for claim 1, Sun and Kain are silent on the use of a mounting block. Monroe teaches the mounting of the cameras onto a single housing (Col 9 Lines 61-64, Figs. 4A-4B). Though Monroe is silent on the mount block being monolithic, the housing of Monroe is viewed by the Examiner to be monolithic as Figures 4A and 4B depict the mount as a single surface with a plurality of parallel lens cavities. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the mounting block of Monroe with the system of Sun and Kain in order to provide a multiple camera surveillance system as taught by Monroe (Col 2 Lines 35-49).
[claim 3]

Sun further teaches the use of a plurality of filter elements for filtering light collected by a lens (Col 5 Lines 31-37 and Col 6 Lines 54-58).
[claim 8]

As shown above for claim 1, each camera contains the photodetectors (Col 7 Lines 20-25). Therefore it is viewed by the Examiner that the camera is the fixture for which the photodetectors are mounted.

[claim 10]

Sun further teaches the calibration and correction of discrepancies in the fields of view during post-processing (Col 5 Lines 46-50, Col 6 Lines 15-25 and Col 9 Lines 30-41).

[claims 11-13]

As shown above, Sun, Kain, and Monroe teach the system of claim 1, Sun and Monroe are silent on the use of an inertial measurement unit. Kain teaches the use of an inertial measurement unit to detect acceleration and rotation rates and provide the data to the controller in order to adjust the system (Col 5 Line 66-Col 6 Line 19). Kain further teaches the inertial measurement unit is used by the controller in triggering collection of the imaging data as required by claim 12 (Col 10 Lines 37-57). Kain teaches the use of the inertial measurement unit to control a stabilized platform assembly or for post processing (Col 3 Lines 2-8, Col 8 Lines 44-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the inertial measurement unit of Kain in order to determine geographic data as taught by Kain(Col 3 lines 2-13).

[claims 14-16]

As shown above, Sun, Kain, and Monroe teach the system of claim 1, Sun and Kain are silent on the use of a plurality of camera assemblies. Monroe teaches the use

of a plurality of camera assemblies each having its own set of lenses (Col 9 Line 67-Col 10 Line 9, Col 14 Line 12-16, Fig. 5 and Fig. 23). Monroe teaches the benefit of the assemblies in order to monitor large spaces (Col 11 Lines 37-48). Figures 12a and 12b show the assemblies may have the same or different fields of view as required by claims 15 and 16. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple camera assemblies in order to monitor large spaces (Col 11 Lines 37-48).

[claim 31]

As shown above for claim 3, Sun teaches the use of a plurality of filters (Col 5 Lines 31-37 and Col 6 Lines 54-58). Sun further teaches each filter has a different filter wavelength band (Col 5 Lines 34-47).

Claims 4, 17, 22, 23, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun, Kain and Monroe and further in view of US Patent 6,616,097 to Hilbert.

[claim 4]

As shown above for claim 3, Sun teaches the use of filters. Sun further teaches the filters are interchangeable (Col 3 Lines 44-47, Col 5 Lines 31-33). Sun, Kain and Monroe are silent on the use of a filter retainer.

Figure 4 of Hilbert teaches the use of a retainer to mount filter panels based on the desired reconnaissance (Col 1 Lines 40-46, Col 2 Lines 40-49 and 61-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the retainers of Hilbert with the system of Sun, Kain and Monroe in order to quickly

change the filter panels for desired reconnaissance as taught by Hilbert (Col 2 Lines 61-64).

[claim 17]

As shown above for claim 1, Sun, Kain, and Monroe teach an imaging system. Sun teaches the camera assembly as a rugged unit able to be fitted in any convenient location of an aerial platform (Col 11 Line 60-62). Sun, Kain and Monroe are silent on the use of a pod. Hilbert teaches the use of a pod in order to house the assembly (Col 1 Lines 40-46, Figs. 1 and 7). Though, Hilbert is silent on the pod being aerodynamic it would have been obvious to use an aerodynamic pod with aircraft surveillance (Official Notice). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the pod of Hilbert in order to provide an adaptable reconnaissance system as taught by Hilbert (Col 1 Lines 14-21 and Lines 40-46).

[claims 22 and 30]

As shown in Figure 2, Sun teaches an aerial imaging system comprising a controller (22) located with an aircraft and a camera assembly (11) (abstract, Col 5 Lines 14-15 and 25-30, Fig. 1). Sun further teaches the use of an image storage medium as part of the controller (166, Figure 10) (Col 11 Lines 15-24). The controller performs the operation of collecting images and storing them to the image storage medium (Col 5 Lines 46-50, Col 11 Lines 15-20 and Lines 46-49). The camera assembly comprises at least one multiple camera module with a plurality of parallel camera lenses (Col 5 Lines 27-31, Col 6 Lines 58-60, and Col 11 Lines 60-62). Sun further teaches the CCD cameras contain photodetectors (Col 7 Lines 20-25). Sun

teaches each camera is associated with a lens and captures light through the lens (Col 5 Lines 27-44). Sun further teaches the use of a plurality of interchangeable filter elements for filtering light collected by a lens (Col 3 Lines 44-47, Col 5 Lines 31-37 and Col 6 Lines 54-58). Sun is silent on the image storage medium located within an aircraft, a mounting block containing a plurality of parallel lens cavities, and a filter retainer.

As shown in Figure 3, Kain teaches the use of an electronics unit (84) containing an image storage medium (32) located within an aircraft for use with a remote data collection system (Abstract, Col 3 Lines 67-Col 4 Line 4, Col 4 Lines 34-36, Col 5 Line 11-16 and Col 5 Lines 20-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to located the image storage medium of Sun within an aircraft as Kain teaches such a setup for remote data collection systems. Kain is silent on the mounting block for the lenses and a filter retainer.

Monroe teaches the use of a security and surveillance system containing a plurality of cameras contained in a single unit (Col 2 Lines 35-49, Col 9 Lines 13-19, Fig. 1). The cameras are further mounted onto a single block (Col 9 Lines 61-64, Figs. 4A-4B). Note the figures depict the cameras are mounted to the mount (58) in parallel. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the mount of Monroe with the system of Sun and Kain in order to provide a multiple camera surveillance system as taught by Monroe (Col 2 Lines 35-49). Monroe is silent on the use of a filter retainer.

Figure 4 of Hilbert teaches the use of a retainer to mount filter panels based on the desired reconnaissance (Col 1 Lines 40-46, Col 2 Lines 40-49 and 61-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the retainers of Hilbert with the system of Sun, Kain and Monroe in order to quickly change the filter panels for desired reconnaissance as taught by Hilbert (Col 2 Lines 61-64).

[claim 23]

Sun further teaches each filter has a different filter wavelength band (Col 5 Lines 31-37).

[claim 27]

As shown above, Sun, Kain, and Monroe teach the system of claim 22, Sun and Kain are silent on the use of a plurality of camera modules. Monroe teaches the use of a plurality of camera modules each having its own set of lenses and photodetectors (Col 9 Line 67-Col 10 Line 9, Col 14 Line 12-16, Fig. 5 and Fig. 23). Monroe teaches the benefit of the modules in order to monitor large spaces (Col 11 Lines 37-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple camera modules in order to monitor large spaces (Col 11 Lines 37-48). It would have been further obvious to one of ordinary skill in the art at the time of the invention that each camera module would have an optical filter assembly since Sun teaches each camera has an interchangeable filter (Col 3 Lines 44-47, Col 5 Lines 31-37 and Col 6 Lines 54-58).

[claim 28]

Sun further teaches the use of an infrared filter (Col 5 Lines 34-37). Note, near-infrared (2,500 to 750nm) is one of the three parts of the infrared radiation spectrum (Far-infrared, Mid-infrared, and Near-infrared).

[claim 29]

Sun teaches the user is provided the ability to interchange the filters for each camera from among the disclosed filters (red, blue, green, and near infrared) (Col 5 Lines 30-37). Thus it would have been obvious to use any combination of the filters as a design choice.

Claims 5, 6, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun, Kain, Monroe and Hilbert as applied to claims 4 and 22 above, and further in view of US Patent 6,672,535 to Brunner et al.

[claims 5, 6, 24 and 25]

As shown above for claims 4 and 22, Sun, Kain, Monroe and Hilbert teach the use of filter retainers. Sun, Kain, Monroe and Hilbert are silent on an airtight seal existing between the filter retainer and the mounting block. Sun Kain, Monroe and Hilbert are further silent on a vacuum existing between the filter retainer and the mounting block.

Figure 6 of Brunner teaches the ability to connect a dome (28) to a housing in order to provide an airtight and vacuum seal between the dome and the camera for use in aircraft surveillance (Col 1 Lines 8-11, Col 2 Lines 41-46, Col 2 line 65-Col 3 Line 7 and Col 3 Line 28-36). It would have been obvious to one of ordinary skill in the art at

the time of the invention to use the seal of Brunner in order to maintain the environment integrity as taught by Brunner (Col 3 Lines 26-36).

Claims 7 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun, Kain,Monroe and Hilbert as applied to claims 4 and 22 above, and further in view of US Patent 5,610,878 to Pretat et al.

[claims 7 and 26]

As shown above for claims 4 and 22, Sun, Kain Monroe and Hilbert teach an imaging system using filters. Sun, Kain, Monroe and Hilbert are silent on the use of a desiccant.

Pretat teaches the use of a desiccation capsule in order to reduce the degree of moisture in cases which are not tight such as camera cases (Col 6 Lines 27-33 and Lines 48-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the desiccation capsule of Pretat with the imaging system Of Sun, Kain, Monroe and Hilbert as Pretat teaches the use of the capsule with cameras (Col 6 Line 61-64).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sun, Kain, and Monroe as applied to claim 1 above, and further in view of US Patent 6,684,402 to Wolf.

[claim 9]

Sun teaches a connection between the controller and cameras (Col 11 Lines 26-31, Fig. 10). Monroe suggests the use of a digital network using Ethernet (Col 4 Lines

23-28). Sun, Kain and Monroe fail to teach the use of a serial data path connected to the imaging photodetectors that meets standard IEEE 1394.

As shown in Figure 1, Wolf teaches the connection of multiple cameras using a serial data path connection meeting standard IEEE 1394 (Col 1 Lines 8-14, Lines 64-67, Col 3 Lines 18-44). Wolf further teaches the camera may be connected using Ethernet to the hub before transferring using IEEE 1394 (Col 3 Lines 57-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the IEEE 1394 connection means of Wolf in order to couple multiple image acquisition devices to a computer as taught by Wolf (Col 1 Lines 60-63).

Claims 18, 19, 51, 52, 54, and 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun in view of Kain in further view of US Patent 6,684,402 to Wolf.

[claim 18, 19, 51 and 52]

As shown in Figure 2, Sun teaches an aerial imaging system comprising a controller (22) located with an aircraft and a camera assembly (11) (abstract, Col 5 Lines 14-15 and 25-30, Fig. 1). Sun further teaches the use of an image storage medium as part of the controller (166, Figure 10) (Col 11 Lines 15-24). The controller performs the operation of collecting images and storing them to the image storage medium (Col 5 Lines 46-50, Col 11 Lines 15-20 and Lines 46-49). The camera assembly comprises at least one multiple camera module with a plurality of parallel camera lenses and focused on the same field of view (Col 5 Lines 27-31, Col 6 Lines 58-60, and Col 11 Lines 60-62). Sun further teaches the CCD cameras contain

photodetectors (Col 7 Lines 20-25). Sun teaches each camera is associated with a lens and captures light through the lens (Col 5 Lines 27-44). Sun teaches a connection between the controller and cameras (Col 11 Lines 26-31, Fig. 10). Sun is silent on the image storage medium located within an aircraft. Sun further fails to teach the use of a serial data path connected to the imaging photodetectors that meets standard IEEE 1394.

As shown in Figure 3, Kain teaches the use of an electronics unit (84) containing an image storage medium (32) located within an aircraft for use with a remote data collection system (Abstract, Col 3 Lines 67-Col 4 Line 4, Col 4 Lines 34-36, Col 5 Line 11-16 and Col 5 Lines 20-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to located the image storage medium of Sun within an aircraft as Kain teaches such a setup for remote data collection systems. Kain fails to teach the use of a serial data path connected to the imaging photodetectors that meets standard IEEE 1394.

As shown in Figure 1, Wolf teaches the connection of multiple cameras using a serial data path connection meeting standard IEEE 1394 (Col 1 Lines 8-14, Lines 64-67, Col 3 Lines 18-44). Wolf further teaches the camera may be connected using Ethernet to the hub before transferring using IEEE 1394 (Col 3 Lines 57-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the IEEE 1394 connection means of Wolf in order to couple multiple image acquisition devices to a computer as taught by Wolf (Col 1 Lines 60-63).

[claim 54]

Sun teaches each camera contains the photodetectors (Col 7 Lines 20-25). Therefore it is viewed by the Examiner that the camera is the fixture for which the photodetectors are mounted.

[claim 56]

Sun further teaches the use of a plurality of filter elements for filtering light collected by a lens (Col 5 Lines 31-37 and Col 6 Lines 54-58).

[claims 57-58]

Sun further teaches the use of red, blue, green and near infrared filters (Col 5 Lines 34-37). Note, near- infrared (2,500 to 750nm) is one of the three parts of the infrared radiation spectrum (Far-infrared, Mid-infrared, and Near-infrared).

[claim 59]

Sun teaches the user is provided the ability to interchange the filters for each camera from among the disclosed filters (red, blue, green, and near infrared) (Col 5 Lines 30-37). Thus it would have been obvious to use any combination of the filters as a design choice.

Claims 20, 21, 53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun, Kain, and Wolf as applied to claims 18, 51 and 54, in further view of US Patent 7,023,913 to Monroe.

[claims 20, 21, 53 and 55]

As shown above for claim 18, Sun, Kain and Wolf teach a system using a serial connection. Wolf further teaches the use of a hub as depicted in Figure 1. Sun, Kain, and Wolf are silent on the hub having an additional connection via which it may be

connected to an additional data hub. Sun, Kain and Wolf are silent on the use of a plurality of camera assemblies as required by claim 21.

Monroe teaches the use of multiple camera assembly units each having its own set of lenses and its own set of photo detectors (Col 9 Line 67-Col 10 Line 9, Col 14 Line 12-16, Fig. 5 and Fig. 23). Monroe teaches the benefit of the assemblies in order to monitor large spaces (Col 11 Lines 37-48). Monroe further teaches the multiple assemblies are connected together to provide multiple imaging units to a computer (Col 10 Lines 1-9). Monroe further teaches the ability to connect multiple image assemblies (60a and 60b), each having a hub (15a and 15b), to a network (Col 14 Lines 19-21 and 38-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple camera assemblies of Monroe with the system of Sun, Kain and Wolf in order to monitor large spaces (Col 11 Lines 37-48). It would have further been obvious to connect the networked image assemblies to the serial data path of Wolf as Wolf teaches the use of a serial data path combined with Ethernet connections (Col 3 Lines 35-40 and 57-62).

Claims 34 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 7,023,913 to Monroe.

[claim 34]

Monroe teaches the mounting of the cameras onto a single housing (Col 9 Lines 61-64, Figs. 4A-4B). Though, Monroe is silent on the mount being monolithic the housing of Monroe is viewed by the Examiner to be monolithic as Figures 4A and 4B depict the mount as a single surface with a plurality of parallel lens cavities.

[claim 43]

As shown above for claim 32, each camera contains the photodetectors (Col 8 Lines 4-8, Col 10 Lines 51-53, Figs. 1 and 9). Therefore it is viewed by the Examiner that the camera is the fixture for which the photodetectors are mounted.

Claims 35, 36, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monroe as applied to claim 32 above, and further in view of US Patent 7,019,777 to Sun.

[claims 35 and 36]

As shown above, Monroe teaches a camera module for use of surveillance. Monroe is silent on the use of filters.

As shown in Figure 2, Sun teaches an aerial imaging system comprising a controller (22) located with an aircraft and a camera assembly (11) (abstract, Col 5 Lines 14-15 and 25-30, Fig. 1). Sun further teaches the use of a plurality of interchangeable filter elements, each having a different filter wavelength band, for filtering light collected by a lens (Col 5 Lines 31-37 and Col 6 Lines 54-58). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the filters of Sun with the camera module of Monroe in order to provide spectral characteristics beyond the human eye and extend dynamic range as taught by Sun (Col 2 Line 63-Col 3 Line 5).

[claims 41 and 42]

Sun further teaches the use of an infrared filter (Col 5 Lines 34-37). Note, near-infrared (2,500 to 750nm) is one of the three parts of the infrared radiation spectrum

(Far-infrared, Mid-infrared, and Near-infrared). Sun teaches the user is provided the ability to interchange the filters for each camera from among the disclosed filters (red, blue, green, and near infrared) (Col 5 Lines 30-37). Thus it would have been obvious to use any combination of the filters as a design choice. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the filters of Sun with the camera module of Monroe in order to provide spectral characteristics beyond the human eye and extend dynamic range as taught by Sun (Col 2 Line 63-Col 3 Line 5).

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monroe and Sun as applied to claim 35 above, and further in view of US Patent 6,616,097 to Hilbert.

[claim 37]

As shown above for claim 35, Monroe and Sun teach the use of filters with a camera apparatus. Sun further teaches the filters are interchangeable (Col 3 Lines 44-47, Col 5 Lines 31-33). Monroe and Sun are silent on the use of a filter retainer.

Figure 4 of Hilbert teaches the use of a retainer to mount filter panels based on the desired reconnaissance (Col 1 Lines 40-46, Col 2 Lines 40-49 and 61-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the retainers of Hilbert with the camera apparatus of Monroe and Sun in order to quickly change the filter panels for desired reconnaissance as taught by Hilbert (Col 2 Lines 61-64).

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monroe, Sun, and Hilbert as applied to claim 37 above, and further in view of US Patent 6,672,535 to Brunner et al.

[claims 38 and 39]

As shown above for 37, Monroe, Sun and Hilbert teach the use of filter retainers. Monroe, Sun and Hilbert are silent on an airtight seal existing between the filter retainer and the mounting block. Monroe, Sun and Hilbert are further silent on a vacuum existing between the filter retainer and the mounting block.

Figure 6 of Brunner teaches the ability to connect a dome (28) to a housing in order to provide an airtight and vacuum seal between the dome and the camera for use in aircraft surveillance (Col 1 Lines 8-11, Col 2 Lines 41-46, Col 2 line 65-Col 3 Line 7 and Col 3 Line 28-36). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the seal of Brunner in order to maintain the environment integrity as taught by Brunner (Col 3 Lines 26-36).

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monroe, Sun and Hilbert as applied to claim 37 above, and further in view of US Patent 5,610,878 to Pretat et al.

[claim 40]

As shown above for claim 37, Monroe, Sun and Hilbert teach an imaging system using filters. Monroe, Sun and Hilbert are silent on the use of a desiccant.

Pretat teaches the use of a desiccation capsule in order to reduce the degree of moisture in cases which are not tight such as camera cases (Col 6 Lines 27-33 and

Lines 48-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the desiccation capsule of Pretat with the imaging system of Monroe, Sun and Hilbert as Pretat teaches the use of the capsule with cameras (Col 6 Line 61-64).

Claims 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monroe as applied to claim 32 above, and further in view of US Patent 6,684,402 to Wolf.

[claims 47 and 48]

Monroe teaches the use of a digital network using Ethernet to transfer image data to a server for storage (Col 4 Lines 23-28, Col 12 Lines 29-32). Monroe fails to teach the use of a serial data path connected to the imaging photodetectors that meets standard IEEE 1394.

As shown in Figure 1, Wolf teaches the connection of multiple cameras using a serial data path connection meeting standard IEEE 1394 (Col 1 Lines 8-14, Lines 64-67, Col 3 Lines 18-44). Wolf further teaches the camera may be connected using Ethernet to the hub before transferring using IEEE 1394 (Col 3 Lines 57-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the IEEE 1394 connection means of Wolf in order to couple multiple image acquisition devices to a computer as taught by Wolf (Col 1 Lines 60-63).

[claims 49 and 50]

As shown above for claim 47, Monroe and Wolf teach a system using a serial connection.

Monroe teaches the use of multiple camera module units each having its own set of lenses and its own set of photo detectors (Col 9 Line 67-Col 10 Line 9, Col 14 Line 12-16, Fig. 5 and Fig. 23). Monroe teaches the benefit of the modules in order to monitor large spaces (Col 11 Lines 37-48). Monroe further teaches the multiple units are connected together to provide multiple imaging units to a computer (Col 10 Lines 1-9). Monroe further teaches the ability to connect multiple modules (60a and 60b), each having a hub (15a and 15b), to a network (Col 14 Lines 19-21 and 38-42). It would have further been obvious to connect the networked image assemblies to the serial data path of Wolf as Wolf teaches the use of a serial data path combined with Ethernet connections (Col 3 Lines 35-40 and 57-62).

Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 7,019,777 to Sun in view of 7,023,913 to Monroe.

[claim 60]

As shown in Figure 2, Sun teaches an aerial imaging system comprising a controller (22) located with an aircraft and a camera assembly (11) (abstract, Col 5 Lines 14-15 and 25-30, Fig. 1). Sun further teaches the use of an image storage medium as part of the controller (166, Figure 10) (Col 11 Lines 15-24). The controller performs the operation of collecting images and storing them to the image storage medium (Col 5 Lines 46-50, Col 11 Lines 15-20 and Lines 46-49). The camera assembly comprises at least one multiple camera modulewith a plurality of parallel camera lenses and focused on the same field of view (Col 5 Lines 27-31, Col 6 Lines 58-60, and Col 11 Lines 60-62). Sun further teaches the CCD cameras contain

photodetectors (Col 7 Lines 20-25). Sun teaches each camera is associated with a lens and captures light through the lens (Col 5 Lines 27-44). Each photodetector is associated with a specific camera and lens, therefore each is aligned to receive light from a different one of the camera lenses. Sun is silent on a mounting block containing a plurality of parallel lens cavities.

Monroe teaches the use of a security and surveillance system containing a plurality of cameras contained in a single unit (Col 2 Lines 35-49, Col 9 Lines 13-19, Fig. 1). The cameras are further mounted onto a single housing (Col 9 Lines 61-64, Figs. 4A-4B). Note the figures depict the cameras are mounted to the mount (58) in parallel. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the mount of Monroe with the system of Sun in order to provide a multiple camera surveillance system as taught by Monroe (Col 2 Lines 35-49).

Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sun in view of US Patent 6,684,402 to Wolf.

[claim 61]

As shown in Figure 2, Sun teaches an aerial imaging system comprising a controller (22) located with an aircraft and a camera assembly (11) (abstract, Col 5 Lines 14-15 and 25-30, Fig. 1). Sun further teaches the use of an image storage medium as part of the controller (166, Figure 10) (Col 11 Lines 15-24). The controller performs the operation of collecting images and storing them to the image storage medium (Col 5 Lines 46-50, Col 11 Lines 15-20 and Lines 46-49). The camera assembly comprises at least one multiple camera modulewith a plurality of parallel

camera lenses and focused on the same field of view (Col 5 Lines 27-31, Col 6 Lines 58-60, and Col 11 Lines 60-62). Sun further teaches the CCD cameras contain photodetectors (Col 7 Lines 20-25). Sun teaches each camera is associated with a lens and captures light through the lens (Col 5 Lines 27-44). Sun teaches a connection between the controller and cameras (Col 11 Lines 26-31, Fig. 10). Sun fails to teach the use of a serial data path connected to the imaging photodetectors that meets standard IEEE 1394.

As shown in Figure 1, Wolf teaches the connection of multiple cameras using a serial data path connection meeting standard IEEE 1394 (Col 1 Lines 8-14, Lines 64-67, Col 3 Lines 18-44). Wolf further teaches the camera may be connected using Ethernet to the hub before transferring using IEEE 1394 (Col 3 Lines 57-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the IEEE 1394 connection means of Wolf in order to couple multiple image acquisition devices to a computer as taught by Wolf (Col 1 Lines 60-63).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERICK REKSTAD whose telephone number is (571)272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Erick Rekstad/
Examiner, Art Unit 2621